



# Acquisition Directorate

## OPC Industry Day

### Offshore Patrol Cutter Project

CG-9322 | CAPT Fabling | 04NOV2010



# AGENDA

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**1330-1340 (10 minutes)                      Welcome / Introduction / Ground Rules**

## **Overview of the OPC Acquisition**

**1340-1355 (15 minutes)                      Acquisition Strategy and Notional Timeline**

## **Overview of the Offshore Patrol Cutter**

**1355-1415 (20 minutes)                      OPC Concept of Operations**

**1415-1435 (20 minutes)                      OPC Operational Requirements Overview**

## **OPC Classification**

**1435-1505 (30 minutes)                      Use of Naval Vessel Rules & Role of ABS**

**1505-1515 (10 minutes)                      Commonly Asked Questions & Answers**

**1515-1530 (15 minutes)                      Industry Engagement Path Ahead &  
Wrap-up**

# Ground Rules for this Engagement

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- No handouts to be provided
  - Presentation to be posted on our website ([www.uscg.mil/acquisition](http://www.uscg.mil/acquisition))
- Focus of this engagement is to provide industry at large an update on the OPC acquisition
- Due to large forum, please hold questions
  - Provide via:
    - email ([Offshore.Patrol@uscg.mil](mailto:Offshore.Patrol@uscg.mil))
    - Website

# Note on Coast Guard Remarks

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The remarks today by Coast Guard officials involved with the OPC project are not a guarantee of the Coast Guard's course of action in proceeding with the OPC procurement. The information we share today represents current Coast Guard OPC project status and will change based on internal and external circumstances. The formal solicitation, when issued, is the only document that should be relied upon in determining the Coast Guard's official requirements.

# **Introduction - Coast Guard Team**

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**RADM Rábago – Coast Guard Chief Acquisition Officer (CG-9)**

**RADM Ostebo – Coast Guard Assistant Commandant for Engineering and Logistics (CG-4)**

**CAPT Wiedenoeft – Deputy Assistant Commandant for Capabilities**

**CAPT Fabling – OPC Project Manager**

**Denise Bechtol – OPC Deputy Project Manager**

**IJ Ezeonwuka – OPC Contracting Specialist**

**Martin Hecker – OPC Deputy Ship Design Team Manager**

**LCDR Jason Ryan – OPC Sponsor's Representative**

**LCDR Andrew Meverden – OPC Acquisition Manager**

# Introductory Remarks

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## Chief Acquisition Officer Reflections

- **Recapitalizing the cutter fleet**
- **Affordability**
- **Green OPC**

# Purpose of this Engagement

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## **Purpose:**

The intended result of our Industry Engagement is to mitigate project risk by removing as much ambiguity as possible so that realistic expectations are understood by the Coast Guard and industry before releasing the OPC RFP.

## **Primary Objectives:**

- To inform industry of current acquisition status & seek industry's feedback on approach, viability & risks as they relate to industry's ability to produce the OPC.
- Allow Coast Guard to gain better industry insight to current design & shipbuilding processes, allowing for reduced risk in the acquisition.

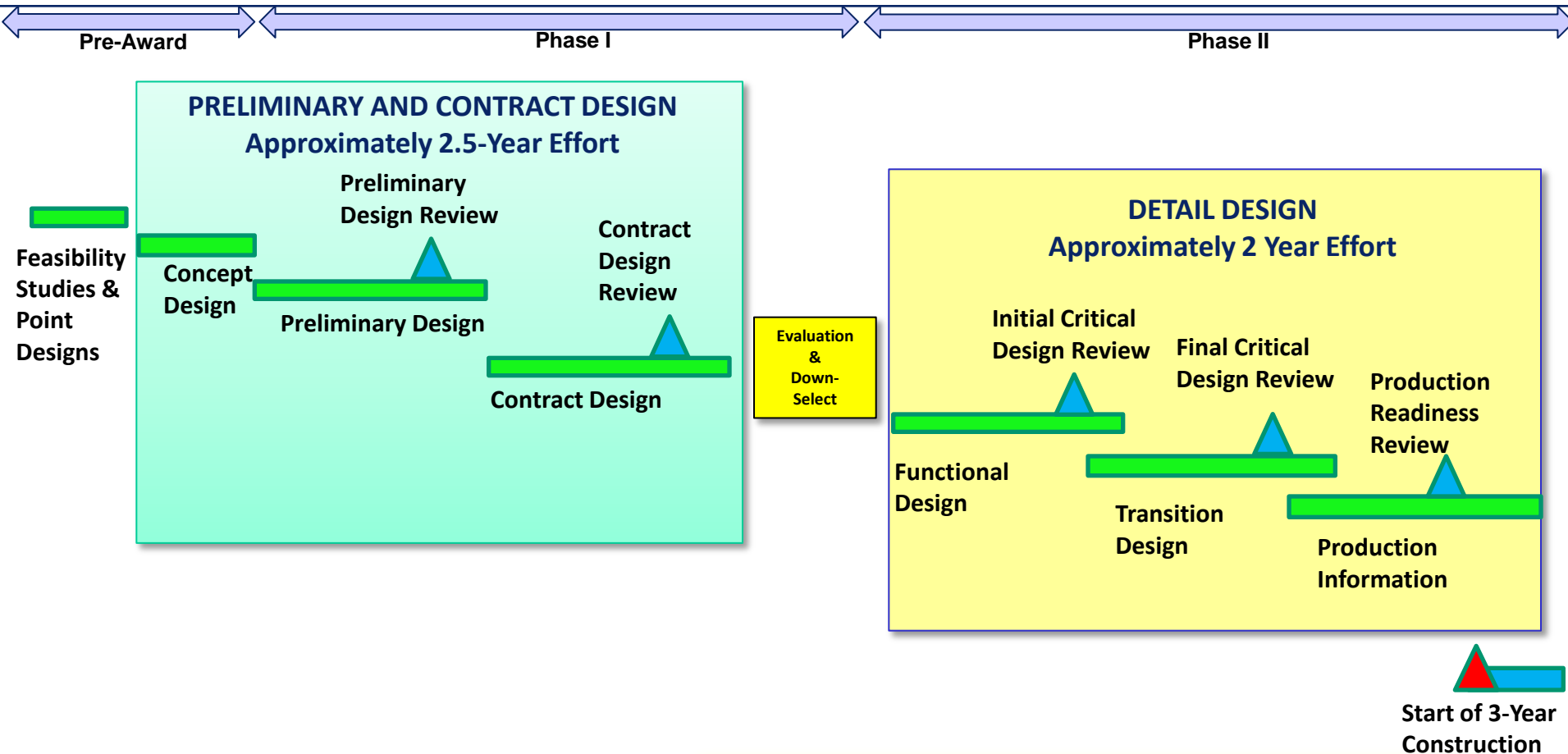
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# **Overview of OPC Acquisition**

## **Acquisition Strategy and Notional Timeline**



# Design Activities: Basic Ship Design Phases



- **Functional Design** – Two-dimensional
- **Transition Design** – Three-dimensional
- **Production Information** – contains detailed instructions for the assembly of the ship

# Acquisition Strategy

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- **Cutters #1-9: Two-Phased Design-Build Strategy**
  - Phase 1
    - Full & open competition
    - Contract type: FFP
    - Award up to three teams for Preliminary & Contract Design (P&CD)
    - Duration: 24 months
  - Phase 2
    - Down-select to one from Phase 1 contractors
    - Contract type: TBD
    - Award Detailed Design & Construction (DD&C) contract for lead cutter
    - Options for cutters #2-9
- **Cutters #10-25: Re-competes for Construction**
  - Full and open competition using data packages

# OPC Project Timeline Goals & Assumptions

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- Request for Proposal mid-CY11
- Multiple Preliminary Design Contracts awarded FY12 (options for Contract Design)
  - Preliminary Design (PD) period 12 months
  - Contract Design (CD) period 12 months
- 2 year Detail Design Contract Awarded with Start of construction by FY16 (3 year construction)
- FY19 delivery of Lead Ship

# Notional C4ISR Acquisition Strategy

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- OPC C4ISR Acquisition Strategy TBD
  - Full system functionality at delivery
  - Desire commonality within CG C4ISR
  - Will be a mix of CFE and GFE

# Updated Industry Engagement Plan

- **Industry Day**

- A general overview of acquisition for anyone interested. Review to include the project acquisition strategy and current timeline, concept of operations and top level requirements, and classification of the OPC.

- **Draft Specification Release**

- Release draft specification for industry review and comment through potential primes. **(by end of 1QFY2011)**

- **Draft RFP Release**

- Release draft RFP via website for industry review before Pre-solicitation conference; industry encouraged to provide written comments on draft documentation. **(planned for 3QFY2011)**

- **Pre-Solicitation Conference**

- Conduct pre-solicitation conference; industry asked to provide any final comments. **(planned for 3QFY2011)**

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# **Overview of Offshore Patrol Cutter**

## **Concept of Operations / Operational Requirements**

# Coast Guard Concept of Operations

- **Coast Guard unique operational requirements are different and more demanding**
- **Coast Guard Cutter-Operational Discriminators include:**
  - Multi-mission
  - 2 or more simultaneous missions
  - Several missions demand vessel operate in all types of weather conditions
  - Annual operating profile of high number of cycles of operating in harsh conditions
- **In terms of engineering robustness, the needs of the modern USCG Cutter can be considered similar to a small Navy Combatant, but for different reasons:**
  - “Plus”: Range, Seakeeping for Boat Ops and Aviation ops, fatigue life, service life
  - “Minus”; Shock, Hard Kill, Low Threat Environment

# Missions

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**The OPC will be required to perform the following missions:**

- **Ports, Waterways, and Coastal Security (PWCS)**
- **Search and Rescue (SAR)**
- **Drug Interdiction (DRUG)**
- **Migrant Interdiction (AMIO)**
- **Living Marine Resource (LMR)**
- **Other Law Enforcement (OLE)**
- **Defense Readiness (DR) – limited**



# OPC Key Performance Parameters

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## 1. Seakeeping.

- Launch/Recover Boats & Aircraft (SS5), Limited Ops (SS7), Survive (SS8)

## 2. Range.

- 8500 (threshold)-9500 (objective) nm range at 14 knots sustained speed

## 3. Speed.

- 22 (threshold)-25 (objective) kts speed; efficient engine loading throughout speed profile; maneuverability at slower speeds & in smaller ports – as an example: “father – son” diesel or diesel-electric propulsion configuration w/ no gas turbines

## 4. Operational Sustainment and Workforce Allocation.

- Underway crew complement 90 (objective)-104 (threshold) members plus detachments
- Manned/organized for most demanding underway, CG operational environment

## 5. Patrol Endurance.

- Cold and dry food storage for 45 (threshold)-60 (objective) day deployments for the maximum number of accommodations

## 6. Interoperability.

- Exchange voice data, & video w/ CG, DHS, DoD, NATO, international partners

# Top-level Requirements

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**Operational Tempo / Service Life** – Capable of supporting up to 230 deployed days for 30 year service life

**Fatigue Life** – 30 years (threshold) – 30 years +10 years (Objective)

**Hull Form** – OPC Specification will limit hull form to a traditional monohull

**Hull Material** – Specify a traditional steel hull with steel or aluminum superstructure

**Accommodations** – 120 (threshold) / 126 (objective) total racks & support mix gender crews with no more than 8 individuals (threshold) / 6 individuals (objective) per space

# Top-level Requirements

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## Aviation Capabilities

- Conduct flight ops with full compliment in the hangar
- Land and service H-1, H-3, H-6, H-60, H-65
- Hangar USCG H-60 (Objective)/H-65 (Threshold)
- Hangar space to move helo or future UAS in/out without disturbing other aircraft
- Aircraft capture and traversing system
- Space, weight and power for a future UAS

## Small Boats

- 2-3 small boats; no stern ramp
- CG POR, MK IV Cutter Boat – Over the Horizon
- Launch/recover boat during towing/being towed, flight operations, condition I steaming, CG astern refueling

# Top-level Requirements

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## ISR Systems

- Shall have a permanent space with the capability to handle, process, store and disseminate information from and to national intelligence and law enforcement agencies up to and including SCI-level.
- Shall be designed to accommodate a small and organic signals exploitation systems and sensors to collect, process, and exploit imagery, communications and non-communications signals.

## Command, Control, Communications and Computer (C4) System

- Exchange information with external sensors and data links
- Simultaneous external communications
- Limited interface between weapons systems and C4 system
- Sensors supporting tactical operations and navigation
- Integrated electronic navigation and visual/radar piloting
- Unclassified to SCI level systems
- Open architecture
- NT/NO Systems (e.g. TACAN, IFF)

# Top-level Requirements

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- **Combat Weapons Systems**

- Forward Medium Caliber Deck Gun
- Surface Search and Fire Control RADARs
- Stand Alone Weapons Control Console
- Aft Minor Caliber Gun
- .50 Cal ROSAM and crew served machine guns
- Electronic Warfare System
  - SEI System
  - ASCM Soft Kill Capability

## **Survivability**

- One central location to direct all shipboard damage control and remotely control permanently installed DC systems
- Countermeasure washdown for all external surfaces / decon station capability
- Detect CBR contaminants and depart contaminated area

# Mission Enablers

## Workforce Allocation

- 2 person bridge watch for open water / 3 person for restricted water operations
- Engineering watch not to exceed 2 persons w/ unmanned engine rooms for normal, unrestricted operations
- Combat/comms watch not to exceed 2 persons for normal, unrestricted operations
- Inport watch no more than 8 persons for homeport
- Evolution simultaneity (e.g. launch boat, launch helo, conduct intercept/boarding, conduct LE Command and Control)
- Specific evolution manning requirements:

Evolution	Objective	Threshold
Aircraft Traversing	3 people in 15 minutes	6 people in 20 minutes
Brow and Accommodation Ladder	2 people in 10 minutes	6 people in 15 minutes
Shore tie (deploying/retrieving)	4 people in 15 minutes	8 people in 30 minutes
Pier side stores replenishment	4 people in 30 minutes to move ¼ of total capacity	8 people in 30 minutes to move ¼ of total capacity
Mooring/Unmooring	15 people on deck	20 people on deck
Small boat launch/recovery	3 people on deck	5 people on deck
Anchoring/Weighing anchor	4 people on deck	6 people on deck
Underway replenishment	6 people on deck	10 people on deck
Fueling at Sea (Receive fuel)	4 people on deck	6 people on deck
Pyrotechnics/Ammo Onload	5 people	10 people
Pierside Refueling	4 people	6 people
Erecting/stowing immigrant shelter	5 people in 30 minutes	10 people in 30 minutes

# Mission Enablers

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## Law Enforcement Work Space

- Store individual gear for 20 boarding team and 8 boat crew members through combination of bulk and individual locker storage
- Allow simultaneous dressing of a 10 person boarding team and 4 person boat crew.
- Store common boarding equipment, ready service weapons/ammunition
- Provide organizational maintenance and laundry facilities for post mission special clothing.
- Be accessible from the weather decks and interior of the ship

## Alien Migrant Interdiction Ops

- Embark, process and sustain up to 500 migrants for 48 hours and 300 migrants for 5 days
- Shall have a temporary shelter for protecting migrants from the elements in a tropical climate and which can be rigged on the forecastle (primary) and flight deck (secondary)
- Move migrants from embarkation point to holding location without entering interior spaces.

# Mission Enablers

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## Rescue and Assistance

- Embark/debark large group of people directly from the water in SS3 (e.g. capsized migrant vessel with up to 150 people in the water)
- Bring individuals aboard that are injured or unable to move on their own

**Classification** -- ABS-NVR Coast Guard Appendix with specific tailoring to some commercial standards.

- Provides design and construction flexibility

**Environmental** – comply w/ international, federal and state regulations; “Green” vessel

- Tier III emissions
- Discharge holding requirements
- Ballast water management

**Towing** -- up to equivalent tonnage through SS5; up to 10,000 LT through SS2

## Cargo Handling

- Organic capability to move single 5000 lb pallet between ship & pier
- Internally store 2 (threshold) / 10 (objective) 4’x4’x6’ high pallets



# Mission Enablers

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## •Sustainment Requirements

- State of the market technology
- Open system architecture
- Commonality
- Modularity
- Human Systems Integration

## Training

- Embedded training capabilities to simultaneously conduct real world operations and training exercises for command and control, weapons systems, electronics support measures, machinery control, and damage control
- Dedicated space to assemble up to 20 seated personnel for training, briefings, and classroom instruction. Space facilities will include audio visual display capability and at least 20 LAN connections, each with an associated work space
- Training infrastructure will be minimized through intelligent systems, embedded training and/or computer-based-training to minimize system training demand

# Mission Enablers

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## Life Cycle Support

- Systems and technologies to reduce life-cycle maintenance costs and ownership cost a critical factor.

System examples:

- Adequate space to work on equipment and easy removal routes for higher tempo maintenance systems.
- Systems to quickly load and store supplies such as food, parts, and ammunition
- Systems to reduce crew work load
- Automation (e.g. integrated bridge system, automated aviation fuel testing and tank circulation, automated meteorology sensors)



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# Offshore Patrol Cutter Classification

# OPC Classification

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- OPC to be classed IAW American Bureau of Shipping (ABS) Guide for Building and Classing Naval Vessels (NVR) w/ Coast Guard Appendix
  - As tailored by OPC System Specification
  - Will use rules version January 2010

# OPC Classification – What it is not

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- ABS Class does not replace the Coast Guard's involvement
- ABS Class does not address everything – only those aspects addressed in NVR (basically HM&E)
- ABS Class does not replace the design development process
- ABS Surveyors are not a replacement for a Quality Assurance Department
- The NVR is not a build spec

# NVR Tailoring Considered

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- OPC System Specification tailoring of the NVR:
  - Removal of shock requirements
  - Removal of all signature requirements
  - Removal of noise requirements (other than airborne for habitability)
  - Reduced equipment redundancy from NVR
  - Greater flexibility added for commercial processes / standards:
    - Welding & allied processes
    - Electrical systems iaw IEEE45 / 46 CFR
    - Auxiliary Systems

# NVR Tailoring Considered (2)

- Electrical Example – SWBS 324 – Switchboards and Panels:

SWBS	Cite	Equipment	Requirement Summary
324	2.5	Load Centers	NVR is modified to allow for commercial equipment
324	2.6	Control Centers	NVR is modified to allow for commercial equipment
324	2.7	Distribution Panels	NVR is modified to allow for commercial panels
324	2.8	Circuit Breakers	NVR is modified to allow for other types of commercial breakers
324	2.9	Circuit Breakers	NVR is modified to allow for other types of commercial breakers
324	2.10	AC&DC Motor Controllers	NVR is modified to allow for commercial motor controllers
324	2.11	Variable Speed Drives	NVR is modified to allow for commercial drives
324	2.12	Electric Brakes	NVR is modified to allow for other types of commercial brakes
324	2.13	Manual Bus Transfers	NVR is modified to allow for commercial equipment
324	2.14	Automatic Bus Transfers	NVR is modified to allow for other types of commercial equipment
324	2.17	Safety Disconnect Switches	NVR is modified to allow for commercial switches



# NVR Tailoring Considered (3)

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- 200+ specific items tailored; representative examples include:
  - Removal of NVR Safe Operating Envelope (SOE) requirements
  - Removal of requirements for structural (segmented) model testing
  - Reduction in CBR / removal of CPS requirements
  - Reduction to SVR rules for start air

# NVR Request Process

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- Shipyards need to have NVR access in order to understand the full scope of OPC requirements.
- NVR contains unclassified sensitive information that must be protected from unauthorized release.
  - NVR governed by "Distribution Statement D" - "Distribution authorized to DoD and DoD contractors only."
  - NVR also governed by International Trafficking in Arms Regulations (ITAR); Export is restricted by the Arms Export Control Act (Title 22, U.S.C. Sec 2751 et seq.) or the Export Administration Act of 1979, as amended, Title 50, U.S.C., App 2401, et seq.
- Violations of these export laws are subject to severe criminal penalties. It must be disseminated per the provisions of OPNAVINST 5510.161.

# NVR Request Process

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In order to gain access to any part of the NVR, send an email to:

[rdelpizzo@eagle.org](mailto:rdelpizzo@eagle.org) with a copy to [tingram@eagle.org](mailto:tingram@eagle.org)

Attach to the email two scanned documents:

- copy of company's approved DD 2345 form
- & copy of a letter on company's letterhead stating interest in submitting a proposal in response to upcoming OPC solicitation (requiring your access to the NVR).

ABS will obtain concurrence from NAVSEA 05D for appropriate need-to-know determination as it relates to the OPC.

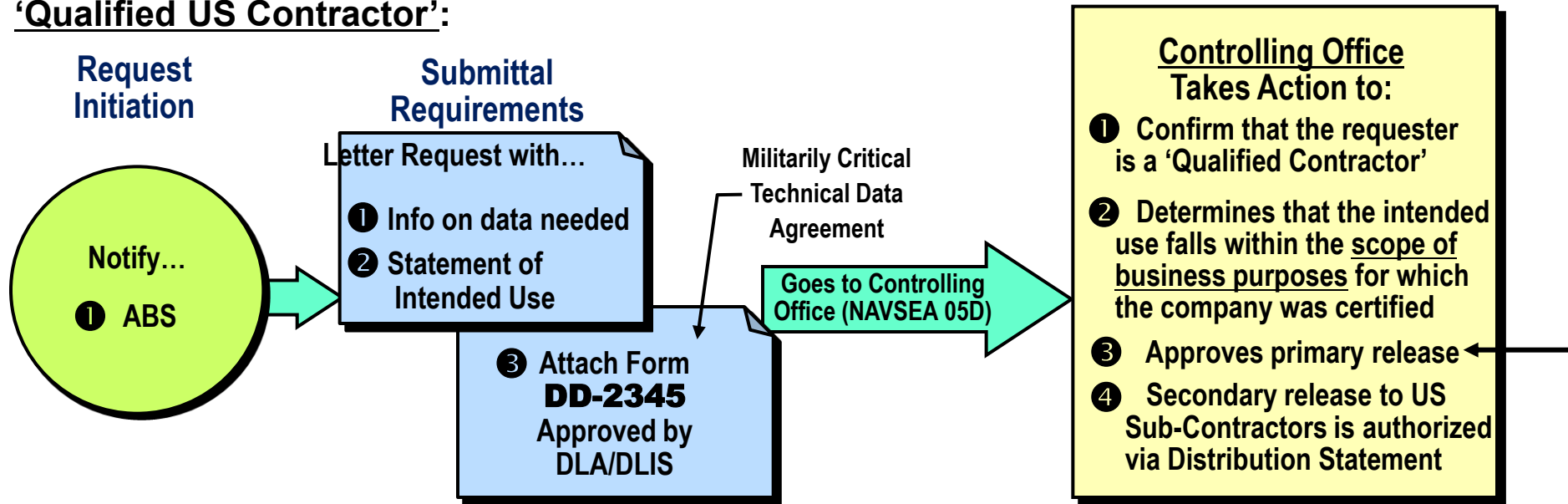
If your organization has already has access to NVR, then no need to repeat.

# NVR Request Process - Secondary Release

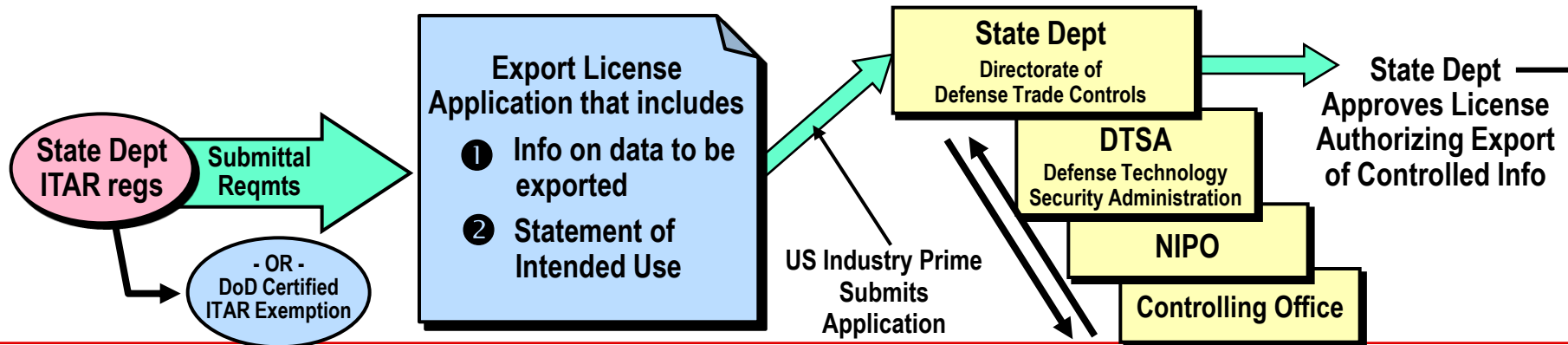
- Secondary release of NVR by primes to subcontractors certified as “Qualified U.S. Contractors” is authorized w/o further government approval.
    - either excerpt of specific NVR requirements for insertion into a purchase specification
    - or selected portions of the NVR can be provided based upon valid need-to-know & verification of a subcontractor’s qualified status.
  - NAVSEA 05D requests that whole copies of NVR not be provided to subcontractors
    - content should be limited to only that needed to execute the subcontract.
- \*\*Note: open online access to the NVR & unencrypted electronic transmission of the NVR are prohibited.**

# NVR Request Process – Flow Chart

For US Requests from a  
'Qualified US Contractor':



Additional For Foreign Releases:



# Criteria for Making Release Determination

## For All Requests:

1. Determine what portion of the rules is appropriate to release to given party based on a demonstrated need

## For US Requests:

2. Criterion 1, plus valid need-to-know
  - Have a government contract involving the technology, or
  - Are bidding on a government contract (as prime or sub)

## For Foreign Requests:

3. Criteria 1 & 2, plus ITAR Export License approval
  - Technical Assistance Agreement (TAA) - Data only
  - Manufacturing License Agreement (MLA) - Hardware & Data
  - DSP-5 License for permanent release of a Defense Article

Case  
Specific

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# Wrap Up

# Commonly Asked Questions

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- **Will the USCG release a draft specification for Industry review?**
- **What systems will the USCG provide / direct as GFE?**
- **Have USCG requirements for the OPC changed in light of the Deepwater Horizon incident?**



# Commonly Asked Questions (2)

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- **Will the propulsion and auxiliary diesel engines be required to meet EPA Tier 4 emission regulations?**
- **Does the USCG intend to have any type of Ice Class rating for the OPC?**
- **Will the USCG provide additional definition of C4I requirements for the OPC in the forthcoming RFP?**

# Industry Engagement Strategy – Path Ahead

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- Draft Specification Release**

Release draft specification for industry review and comment through potential primes. **(by end of 1QFY2011)**

- Draft RFP Release**

Release draft RFP via website for industry review before Pre-solicitation conference; industry encouraged to provide written comments on draft documentation. Tentatively planned for **(planned for 3QFY2011)**

- Pre-Solicitation Conference**

Conduct pre-solicitation conference; industry asked to provide any final comments. Tentatively planned for **(planned for 3QFY2011)**

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# Closing Comments

- [www.uscg.mil/acquisition](http://www.uscg.mil/acquisition)
- Thank you for attending!

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**END**